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REMARKS

Reconsideration is respectfully requested in view of the following remarks.

Claims 1-20 stand rejected under 35 U.S.C. 103(a) as being obvious over Blatz (U.S. Pat. No. 5,770,654) in view of Hedrick et al. (U.S. Pat. No. 3,419,517).

Claim 1 is directed to a thermoplastic polyamide composition comprising: (a) from about 5 to about 30 weight percent of a free-flowing toughener comprising from about 20 weight percent to about 95 weight percent polyvinyl butyral; (b) 95 to 25 weight percent polyamide that is melt processible below about 320°C and which has a number average molecular weight of at least 5,000; (c) a mineral filler in an amount of from about 10 to about 45 weight percent of the total composition; and (d) optionally a coupling agent. Claim 8 is directed to an article prepared from the composition of Claim 1.

The Patent Office's position seems to be that Blatz discloses all of the claimed features of the present invention except that Blatz does not describe a polyamide composition comprising a mineral filler. The Patent Office points to Hedrick to supply the teaching of mineral fillers for polyamide compositions, stating that one of ordinary skill in the art would be motivated by an expectation of success to combining the two references and thereby obtain the Applicant's claimed invention.

Rather than summarizing the entire prosecution history and applicants positions, applicants focus this rejection on three critical points that they believes are being improperly considered by the Patent Office. First, applicants submit that the Patent Office is not properly construing the teachings of Blatz. Second applicants submit that the Patent Office misapplies Hedrick. Third, applicants submit that the Patent Office has not properly considered the evidence submitted to show that unexpected results are obtained with the invention.

(1) The first point revolves around the use of the phrase "consisting essentially of" in Blatz. Both applicants and the Patent Office have recognized that the terms appears in the Summary of the Invention, not just in the claims. The difference is that applicants submit that this term, construed along with the other teachings of Blatz, shows that Blatz teaches away from the invention.

In contrast, the Patent Office is taking the position that the term "consisting essentially of" merely indicates a preference, and then seems to assert since it is only a preference the person of ordinary skill in the art would ignore it, because of the teachings of Hedrick. The Action is clearly misapplying the law. In addition, the Patent Office is misconstruing the facts before it.

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The position taken by the Patent Office can be seen from the following statement in the Action:

“However, applicants continue to fail to recognize that teachings in the claims or Summary of Blatz only represent the preferable embodiment of the disclosed invention. One of ordinary skill in the art would have studied all of the embodiments taught in Blatz to recognize that the incorporation of mineral filler is a viable way to further modify the disclosed invention (col. 4, line 20-23, 27-31). Therefore, the examiner maintains that Blatz and Hedrick et al. are combinable.”

For reference, the two portions at column 4 that the Action points are describing uses of small amount of inorganic or organic powder to prevent agglomeration of recovered polyvinyl butyral flake and to use of 23% plasticizer. The Action ignores the fact that Blatz column 4, lines 23-24, teaches use of “1% powdered high density polyethylene” to reduce the agglomeration, which is about 1/10th the amount of filler of the instant claims. In addition, the Action pointing to column 4, lines 27-31 does not support the position the Action is making, since that portion refers to the amount of the plasticizer in the polyvinyl butyral, which is already described in the Summary and the claims. In other words, applicants respectfully submit that the Action doesn’t (and can’t) point to any teaching in Blatz that supports the point it is trying to make.

Applicants respectfully submit that the following points clearly support their position that Blatz is an improper primary reference and that the person of ordinary skill in the art would be led to modify the products of Blatz based upon Hedrick:

- Blatz discloses polyamide compositions that consist essentially of plasticized polyvinyl butyral and polyamide. Blatz used the phrase “consisting essentially of” in describing the Blatz composition in the Summary of the Invention, not just in the claims. This shows the intent of the inventors to limit the scope of the invention to the specified materials and those that do not materially affect the basic and novel characteristic(s) of the claimed invention. See, e.g., MPEP 2111.03.
- Consistent with use of the term “consisting essentially of” Blatz also teaches that “Small amounts of dyes, pigments, and stabilizers were also present in this material.” Applicants point to the fact that Blatz is teaching use of “small” amounts of these additives and does not disclose which ones or suitable amounts. Certainly there is no basis for concluding that this teaching would lead the person of ordinary skill in the art to read into the claims that use of mineral filler in an amount of from about 10 to about

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45 weight percent of the total composition to a thermoplastic polyamide composition. Moreover, the person of ordinary skill in the art would not consider those amounts of additives to have the significant impact on the composition that the larger amounts used in this invention provide.

- Concerning the above, applicants point out that Blatz teaches using small amounts of inorganic or organic powder to prevent agglomeration, such as 1% of powdered high density polyethylene. The person of ordinary skill in the art would not be led by that teaching to disregard Blatz express and repeated use of “consisting essentially of” and add mineral filler in an amount of from about 10 to about 45 weight percent of the total composition to a thermoplastic polyamide composition. Certainly Blatz teachings of use of a small amount of inorganic or organic powder to prevent agglomeration would further lead the person of ordinary skill in the art away from using the much larger amounts presently claimed.
- The Action pointing to column 4, lines 27-31 in support of the rejection does not make sense. That portion refers to the amount of the plasticizer in the polyvinyl butyral. The specification and claims of Blatz describe a plasticized polyvinyl butyral, containing 15-35 weight % plasticizer. Thus, this portion of the specification is referring to the composition of the plasticized polyvinyl butyral, not to addition of an additive.
- Applicants submit that addition of 10% or more of mineral filler materially affects the basic and novel characteristic(s) of the claimed invention, and point to the examples of the invention in support of this point. The person of ordinary skill in the art is led away from using such a large amount of filler by Blatz given the use of the phrase “consisting essentially of” in conjunction with teachings of using very small amounts of items other than the specific items mentioned in Blatz.
- Applicants also point out that Blatz was filed after Hedrick, so clearly Blatz would have had the knowledge of Hedrick available. Therefore, Blatz’s choosing to exclude the use of fillers as claimed must be construed in view of the fact that Blatz made that choice despite the earlier teachings of Hedrick, thus supporting the assertion that Blatz not only chose to exclude things other than those described in its specification, but did so despite the earlier teachings of Hedrick.

For the above reasons, alone the rejection under 103 should be withdrawn.

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(2) Second, applicants point out that Hedrick is describing a composition comprising nylon and mineral filler, but does not teach use of from about 5 to about 30 weight percent of a free-flowing toughener comprising from about 20 weight percent to about 95 weight percent polyvinyl butyral. There is nothing in either reference that would indicate the compatibility of the toughener in filled systems, and thus there is nothing that would motivate the person of ordinary skill in the art to combine the cited patents as in the rejection. It is noted that the final Action concludes that since Hedrick teaches uses of silane coupling agent along with use of the fillers there is no issue, but fails to point to anything in Hedrick or Blatz that establishes that the mention of use of a silane coupling agent would be considered by the person of ordinary skill in the art to combine the documents as in the rejection. In particular, the Action fails to establish why this disclosure of Hedrick would motivate the person of ordinary skill in the art to the claimed invention, particularly given the lack of teachings concerning compatibility and the fact that the person of ordinary skill in the art would be disregarding the express teachings of Blatz. Applicants submit that the Action completely fails to point to any teachings in either reference concerning compatibility or to explain the basis for its conclusions. Thus, applicants submit that the rejection is improper.

(3) Third, Applicants also submit that the claimed invention provides an unexpected balance of both strength, as demonstrated by flexural modulus, and impact, as demonstrated by notched izod. This can be seen by comparing the invention with nylon 6 and nylon 6,6 data. Applicants submitted a detailed argument concerning this point in their prior response, and applicants position was dismissed in the Action. The Action states that "Applicants must recognize that it is well known in the art of polymer composite materials that when a toughener is added to plastic materials, the plastic materials are expected to be improved in mechanical properties such as Notched Izod Impact properties." Based upon this, the Action states that applicants' arguments are not persuasive.

The Action totally ignores the fact that the data presented shows a general trend in the literature for nylon 6 and nylon 66, including impact grades, is for addition of mineral to provide an increase in strength and a significant decrease in impact. The data presented shows that this trend can be unexpectedly reduced by adding the tougheners of this invention. In fact, Example 4 actually obtained better impact than would be expected based upon the literature data.

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To better understand the data, consider this excerpt from the large table of data previously presented:

| Sample | <u>Strength</u> Flexural Modulus (Gpa) | <u>Impact</u> Notched Izod (J/m) |
|--|---|-------------------------------------|
| Nylon 66 | 2.4* | 150* |
| Nylon 66, 10% Mineral Filled | 4.2* | 89* |
| Nylon 66, 20% Mineral Filled | 6.1* | 46* |
| Nylon 66, 30% Mineral Filled | 7.1* | 100* |
| Nylon 66, 40% Mineral Filled | 6.7* | 60* |
| Nylon 66, Impact Grade | 2.1* | 550* |
| Nylon 66, Mineral Filled, Impact Grade | 4.6* | 76* |

From this table, it can be seen that addition of impact modifier increase the average Notched Izod value for Nylon 66 polymers. That is, the average Notched Izod rises from 150 J/m to 550 J/m. However, when mineral filler is added the Notched Izod values are substantially lower than the values obtained with Nylon 66 by itself. From the data, it appears that the mineral filler seems to destroy the benefit obtained with the impact modifier.

Comparing the literature value for Zytel® 101 nylon resin to the value of Comparative Example 2, it can be seen that the mineral filler also reduces the impact values obtained with Zytel® 101 nylon resin. However, when the toughener of the invention is used in mineral filled systems, the impact values are comparable or better than those obtained with Zytel® 101 nylon resin by itself. This result is unexpected.

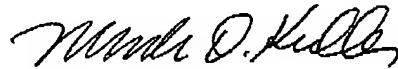
For the above reasons, applicants respectfully request withdrawal of the rejection of the claims as obvious over Blatz in view of Hedrick.

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In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



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